APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/521,588	03/09/2000	David J. Statt	79456MSS	2090

1333   7590   01/15/2004

PATENT LEGAL STAFF
EASTMAN KODAK COMPANY
343 STATE STREET
ROCHESTER, NY 14650-2201

EXAMINER
STEPHANY, TIMOTHY J

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _09 March 2000_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-12_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-12_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _03/09/2000_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _1_.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

The disclosure is objected to because of the following typological and grammatical informalities:

On page 1, line 27, misspelled word in "glossy verses matte" should read "glossy versus matte".

On page 5, line 15, colon needs to be added to "for each color red, green and blue" so as to read "for each color: red, green and blue".

On page 7, lines 5-6, comma and colon need to be added to "If one renders three patches shown in Fig. 4, one with" so as to read "If one renders three patches, shown in Fig. 4: one with".

On page 7, lines 12 and 14, D_b is mistakenly labeled as D_r.

On page 7, lines 12 and page 8, line 1, V_b is mistakenly shown as v_b.

On page 7, lines 17-18, commas should not be subscripted.

On page 8, line 6, CV_b^2 should read dCV_b^2.

On page 8, line 13, remove comma.

On page 8, line 16, commas need to be added to "Then combining all such…on the target perform" so as to read "Then, combining all such…on the target, perform".

On page 13, lines 7-8, commas need to be added to "code values that when…single iteration are determined" so as to read "code values, that when…single iteration, are determined".

Appropriate correction is required.

The disclosure is objected to because of the following technical informalities:

On page 2, lines 20-21, the word "gray" to describe a "neutral density" is an inadequate descriptor, as neutral density also includes white and black.

On page 3, lines 3-14, reference to "red density" (and thereby "green density" and "blue density") apply most obviously to an additive imaging system (e.g. photography) and not a subtractive system (e.g. printing). The use of measuring the "red density", etc. needs clarification through a validation of using this measure in relation to a deviation from a neutral density for the purposes of the invention. Otherwise, there is no clear distinction made between "red density" (related to the amount of cyan) and "density of the red" (the amount of magenta and yellow forming a red patch); "green density" and "density of the green"; and "blue density" and "density of the blue".

On page 4, for black input code value, when $iCV_r = iCV_g = iCV_b$ this is equivalent to iCV_k, so "(and sometimes black)" in line 3 and "(or four)" in line 7 should be removed, unless clarification can be made.

Appropriate correction is required.

Drawings

New corrected drawings are required in this application because Fig. 2 and Fig. 3 are considered to be informal. Applicant is advised to employ the services of a competent

patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Fig. 3 is objected to under 37 CFR 1.83(a) because it fails to show a scale of input code values. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **18** (densitometer) is not shown in Fig. 2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

10 (image) and 16 (density patches). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "black drive code value" of claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the calibration target(s) of claims 7-12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. According changes must also be made within the specification.

Claim Objections

Claim 11 is objected to because of the following informalities: typographical error in line 2, addition of word "at" such that "upon which said least one first patch" reads "upon which said at least one first patch". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 8-12, dependent upon claim 7, are also rejected on the same grounds.

Claim 7 is also rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Clear circumscription of the word "media" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Claims 8-12, dependent upon claim 7, are also rejected on the same grounds. The word "media" can be used to define both a substrate for printed or other matter or a storage form, such as a disk or CD, etc. Designation of the term relating its relevancy to the invention must be properly declared.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3 the language that specifies a "set of neutral density patches" is not semantically differentiable from "[a plurality (set) of patches with] neutral color density values" of claim 1. Thus, the description of claim 3 is embodied within the description of claim 1.

In claim 4 the relationship between the red density, green density and blue density could be either each be a function of red dCV, green dCV and blue dCV or the they could each be functions respectively (i.e. red density a function of only red dCV, etc.) or each density as a function of any combination of the digital count values.

In claim 5 in producing a red density, green density and blue density, the description specifies they be a function of red dCV, green dCV, blue dCV and black dCV. However, $dCV_r = dCV_g = dCV_b$ is equivalent to dCV_k. And thus the black data code value does not appear to add any further improvement to the use of the RGB data code values as specified in claim 1. Also, the relationship between the red density, green density and blue density could be either each be a function of red dCV, green dCV, blue dCV, black dCV or the they could each be functions respectively (i.e. red density a function of only red dCV, etc.) or each density as a function of any combination of the digital count values.

In claim 6, the language that specifies patches with "neutral density code values" is not semantically differentiable from the patches with "neutral color density [code] values" of claim 1. And the language that specifies patches with "red, green or blue density values which are deviated from the neutral density values" is not semantically differentiable from the patches with "[red, green and blue] color density values" that are "non-neutral" (deviated from the neutral values). Thus, the descriptions of claim 6 are embodied within the description of claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu

('469). Liu discloses a method and apparatus for calibrating a digital printer and

teaches the use of a calibration target having a number of neutral patches at varying

density levels, or color patches, or a combination of neutral and color patches (col. 6,

lines 14-17) corresponding to the color patches consisting of subsets of neutral and

non-neutral density values. Also that this is done with varying amounts of red, green

and blue (Fig. 7) and printed on a digital printer (col. 6, lines 26-30) which is the color

reproduction apparatus. Also that the densities of said patches are measured (col. 6,

lines 45-47), that an error criterion is determined (col. 7, lines 1-3) and that this error

criterion is minimized by use of the appropriate calibration function in the printer (col. 8,

lines 1-7) which is equivalent to modifying the converting process of the reproduction

apparatus so as to reduce the errors. Thus Liu satisfies all the elements present in

claim 1 of the pending application.

Claims 3, 5 and 6 are rejected under the same justification as for claim 1.

Liu also discloses a set of patches where they consist of a sampling of red,

green, blue and black color codes (Fig. 7) which shows at least three patches, including

black where R=G=B=0. Also, it adds that intermediate values can be found through

interpolation (col. 8, lines 30-32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Liu in view of Johnson ('866). The disclosure of Liu in reference to the independent claim 1 is discussed in the 102 rejection above.

Liu fails to disclose target values for red density, green density and blue density as a function of red drive code value, green drive code value and blue drive code value.

Johnson adds that there are densities D_r, D_g, and D_b, that are a function of R4, G4, and B4 (col. 4, lines 57-59), which are in turn dependent upon R3, G3 and B3 (col. 4, lines 63-65), which are the signals provided to the imaging system (col. 4, lines 20-21) which is the reproduction apparatus. And that this is done in the process to minimize the errors (col. 6, lines 31-36).

The subject of the Liu reference is a method and apparatus for calibrating a digital printer. The similarity of this to that of the Johnson reference in structure and function suggests that to use target values for red density, green density and blue density as a function of red drive code value, green drive code value and blue drive code value would have been obvious to those of ordinary skill in this art before the time of the filing by the applicant, and is evident in the combined teachings of Liu and Johnson.

Additional Notes

Prior art patent references Wan ('112), Rolleston ('613), Sherman ('516), McCauley ('318), Rees ('167), Vigneau ('907), Hadley ('714), Gregory ('960), Bhattacharjya ('213), Tadenuma ('871), Collette ('529) are only included as background sources and were not used in the determination of the validity of the claims contained in the pending application of this office action.

Wan refers to a method of color calibration for a printer using a target and scanner, Rolleston and Sherman refer to color calibraion of a printer using a target and densitometer, McCauley refers to RGB color calibration using a scanner, Rees refers to a printer calibration method, Vigneau refers to printer calibration using a test pattern with neutrals, Hadley refers to printer calibration with an aim response, Collette and Gregory refer to printer calibration in density space, Bhattacharjya refers to printer color calibration using a scanner, and Tadenuma refers to calibration by measuring density of a target printed on a printer.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Timothy J. Stephany whose telephone number is 703-

305-8951. The examiner can normally be reached on 8:30 am - 4:30 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Coles can be reached on 703-305-4712. The fax phone number for

the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

9700.

EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER